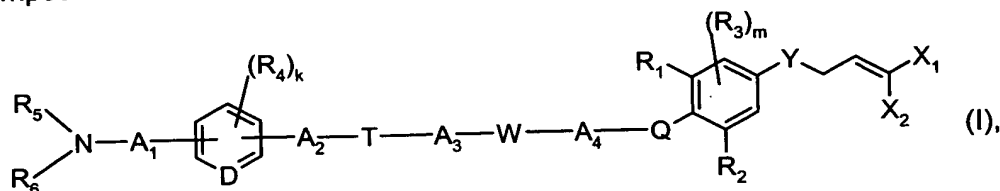


Patent claims

1. A compound of formula



wherein

$A_1$ ,  $A_2$  and  $A_3$  are each independently of the others a bond or a  $C_1$ - $C_6$ alkylene bridge which is unsubstituted or substituted by from one to six identical or different substituents selected from  $C_3$ - $C_8$ cycloalkyl,  $C_3$ - $C_8$ cycloalkyl- $C_1$ - $C_6$ alkyl and  $C_1$ - $C_3$ haloalkyl;

$A_4$  is a  $C_1$ - $C_6$ alkylene bridge which is unsubstituted or substituted by from one to six identical or different substituents selected from  $C_3$ - $C_8$ cycloalkyl,  $C_3$ - $C_8$ cycloalkyl- $C_1$ - $C_6$ alkyl and  $C_1$ - $C_3$ haloalkyl;

$D$  is CH or N;

$W$  is O,  $NR_7$ , S, SO,  $SO_2$ ,  $-C(=O)-O-$ ,  $-O-C(=O)-$ ,  $-C(=O)-NR_8-$  or  $-NR_8-C(=O)-$ ;

$T$  is a bond, O, NH,  $NR_7$ , S, SO,  $SO_2$ ,  $-C(=O)-O-$ ,  $-O-C(=O)-$ ,  $-C(=O)-NR_8-$  or  $-NR_8-C(=O)-$ ;

$Q$  is O,  $NR_7$ , S, SO or  $SO_2$ ;

$Y$  is O,  $NR_7$ , S, SO or  $SO_2$ ;

$X_1$  and  $X_2$  are each independently of the other fluorine, chlorine or bromine;

$R_1$ ,  $R_2$  and  $R_3$  are each independently of the others H, halogen, CN, nitro,  $C_1$ - $C_6$ alkyl,  $C_1$ - $C_6$ haloalkyl,  $C_1$ - $C_6$ alkylcarbonyl,  $C_2$ - $C_6$ alkenyl,  $C_2$ - $C_6$ haloalkenyl,  $C_2$ - $C_6$ alkynyl,  $C_1$ - $C_6$ alkoxy,  $C_1$ - $C_6$ haloalkoxy,  $C_2$ - $C_6$ alkenyloxy,  $C_2$ - $C_6$ haloalkenyloxy,  $C_2$ - $C_6$ alkynyloxy,  $C_1$ - $C_6$ alkoxycarbonyl or  $C_2$ - $C_6$ haloalkenyloxy; the substituents  $R_3$  being independent of one another when  $m$  is 2;

$R_4$  is H, halogen, CN, nitro,  $C_1$ - $C_6$ alkyl,  $C_1$ - $C_6$ haloalkyl,  $C_1$ - $C_6$ alkylcarbonyl,  $C_2$ - $C_6$ alkenyl,  $C_2$ - $C_6$ haloalkenyl,  $C_2$ - $C_6$ alkynyl,  $C_1$ - $C_6$ alkoxy,  $C_1$ - $C_6$ haloalkoxy,  $C_2$ - $C_6$ alkenyloxy,  $C_2$ - $C_6$ haloalkenyloxy,  $C_2$ - $C_6$ alkynyloxy,  $C_1$ - $C_6$ alkoxycarbonyl or  $C_2$ - $C_6$ haloalkenyloxy; the substituents  $R_4$  being independent of one another when  $k$  is greater than 1;

$R_5$  is H, CN, OH,  $C_1$ - $C_6$ alkyl,  $C_3$ - $C_8$ cycloalkyl,  $C_3$ - $C_8$ cycloalkyl- $C_1$ - $C_6$ alkyl,  $C_1$ - $C_6$ haloalkyl,  $C_1$ - $C_6$ alkoxy,  $C_1$ - $C_6$ haloalkoxy,  $C_2$ - $C_6$ alkenyloxy,  $C_2$ - $C_6$ haloalkenyloxy,  $C_2$ - $C_6$ alkynyloxy,  $-C(=O)R_9$ ,  $-C(=S)R_9$ , phenyl, benzyl; or phenyl, phenylcarbonyl or benzyl each of which is substituted in the aromatic ring by from one to five identical or different substituents selected from the group consisting of halogen,  $C_1$ - $C_6$ alkyl, halo- $C_1$ - $C_6$ alkyl,  $C_1$ - $C_6$ alkoxy, halo- $C_1$ - $C_6$ alkoxy, hydroxy, cyano and nitro;

$R_6$  is H, CN,  $C_1$ - $C_6$ alkyl,  $C_3$ - $C_8$ cycloalkyl,  $C_3$ - $C_8$ cycloalkyl- $C_1$ - $C_6$ alkyl,  $C_1$ - $C_6$ haloalkyl,  $-C(=O)R_9$ ,  $-C(=S)R_9$ , phenyl, benzyl; or phenyl, phenylcarbonyl or benzyl each of which is substituted in the aromatic ring by from one to five identical or different substituents selected from the group consisting of halogen,  $C_1$ - $C_6$ alkyl, halo- $C_1$ - $C_6$ alkyl,  $C_1$ - $C_6$ alkoxy, halo- $C_1$ - $C_6$ alkoxy, hydroxy, cyano and nitro; or

$R_5$  and  $R_6$  together form a four- to eight-membered, straight-chain or branched alkylene bridge wherein a  $CH_2$  group may have been replaced by O, S or  $NR_{10}$ , and the alkylene bridge is unsubstituted or substituted by from one to four identical or different substituents selected from  $C_3$ - $C_8$ cycloalkyl,  $C_3$ - $C_8$ cycloalkyl- $C_1$ - $C_6$ alkyl and  $C_1$ - $C_3$ haloalkyl; or

$R_6$  is  $-C(=O)R_9$  or  $-C(=S)R_9$ , and  $R_5$  and  $R_9$  together form a three- to eight-membered, straight-chain or branched alkylene bridge wherein a  $CH_2$  group may have been replaced by O, S or  $NR_{10}$ , and the alkylene bridge is unsubstituted or substituted by from one to four identical or different substituents selected from  $C_3$ - $C_8$ cycloalkyl,  $C_3$ - $C_8$ cycloalkyl- $C_1$ - $C_6$ alkyl and  $C_1$ - $C_3$ haloalkyl; or

$R_5$  and  $R_6$  are each independently of the other  $-C(=O)R_9$  or  $-C(=S)R_9$ , and the two  $R_9$  together form a two- to eight-membered, straight-chain or branched alkylene bridge wherein a  $CH_2$  group may have been replaced by O, S or  $NR_{10}$ ; and the alkylene bridge is unsubstituted or substituted by from one to four identical or different substituents selected from  $C_3$ - $C_8$ cycloalkyl,  $C_3$ - $C_8$ cycloalkyl- $C_1$ - $C_6$ alkyl and  $C_1$ - $C_3$ haloalkyl;

$R_7$  is H,  $C_1$ - $C_6$ alkyl,  $C_1$ - $C_3$ haloalkyl,  $C_1$ - $C_3$ haloalkylcarbonyl,  $C_1$ - $C_6$ alkoxyalkyl,  $C_1$ - $C_6$ alkylcarbonyl or  $C_3$ - $C_8$ cycloalkyl;

$R_8$  is H,  $C_1$ - $C_6$ alkyl,  $C_1$ - $C_3$ haloalkyl,  $C_1$ - $C_3$ haloalkylcarbonyl,  $C_1$ - $C_6$ alkoxyalkyl,  $C_1$ - $C_6$ alkylcarbonyl or  $C_3$ - $C_8$ cycloalkyl;

$R_9$  is  $C_1$ - $C_6$ alkyl,  $C_1$ - $C_6$ haloalkyl,  $C_2$ - $C_6$ alkenyl,  $C_2$ - $C_6$ haloalkenyl,  $C_2$ - $C_6$ alkynyl,  $C_1$ - $C_6$ alkoxy,  $C_1$ - $C_6$ haloalkoxy,  $C_2$ - $C_6$ alkenyloxy,  $C_2$ - $C_6$ haloalkenyloxy,  $C_2$ - $C_6$ alkynyloxy,  $C_3$ - $C_6$ cycloalkyl, phenyl, benzyl; or phenyl or benzyl each of which is unsubstituted or substituted by

from one to three identical or different substituents selected from halogen, CN, nitro, C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>1</sub>-C<sub>6</sub>haloalkyl, C<sub>1</sub>-C<sub>6</sub>alkylcarbonyl, C<sub>2</sub>-C<sub>6</sub>alkenyl, C<sub>2</sub>-C<sub>6</sub>haloalkenyl, C<sub>2</sub>-C<sub>6</sub>alkynyl, C<sub>1</sub>-C<sub>6</sub>alkoxy, C<sub>1</sub>-C<sub>6</sub>haloalkoxy, C<sub>1</sub>-C<sub>6</sub>alkoxycarbonyl, C<sub>1</sub>-C<sub>3</sub>haloalkoxycarbonyl and C<sub>2</sub>-C<sub>6</sub>haloalkenyloxy;

R<sub>10</sub> is H, C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>1</sub>-C<sub>3</sub>haloalkyl, C<sub>1</sub>-C<sub>3</sub>haloalkylcarbonyl, C<sub>1</sub>-C<sub>6</sub>alkoxyalkyl, C<sub>1</sub>-C<sub>6</sub>-alkylcarbonyl or C<sub>3</sub>-C<sub>8</sub>cycloalkyl;

k, when D is nitrogen, is 1, 2 or 3; or, when D is CH, is 1, 2, 3 or 4; and

m is 1 or 2;

and, where applicable, a possible E/Z isomer, E/Z isomeric mixture and/or tautomer thereof, in each case in free form or in salt form.

2. A compound according to claim 1 of formula (I) in free form.

3. A compound according to either claim 1 or claim 2 of formula (I) wherein X<sub>1</sub> and X<sub>2</sub> are chlorine or bromine.

4. A pesticidal composition which comprises as active ingredient at least one compound according to claim 1 of formula (I), in free form or in agrochemically acceptable salt form, and at least one adjuvant.

5. A process for the preparation of a composition as described in claim 4 which comprises intimately mixing the active ingredient with the adjuvant(s).

6. A method of controlling pests which comprises applying a pesticidal composition as described in claim 4 to the pests or to the locus thereof.

7. Use of a compound according to any one of claims 1 to 3 of formula (I), in free form or, where applicable, in agrochemically acceptable salt form, in the preparation of a composition as described in claim 4.